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| Nota di contenuto | Adaptive Tests of Significance Using Permutations of Residuals with R and SAS®; CONTENTS; Preface; 1 Introduction; 1.1 Why Use Adaptive Tests?; 1.2 A Brief History of Adaptive Tests; 1.2.1 Early Tests and Estimators; 1.2.2 Rank Tests; 1.2.3 The Weighted Least Squares Approach; 1.2.4 Recent Rank-Based Tests; 1.3 The Adaptive Test of Hogg, Fisher, and Randles; 1.3.1 Level of Significance of the HFR Test; 1.3.2 Comparison of Power of the HFR Test to the t Test; 1.4 Limitations of Rank-Based Tests; 1.5 The Adaptive Weighted Least Squares Approach; 1.5.1 Level of Significance<br>1.5.2 Comparison of Power of the Adaptive WLS Test to the t Test and the HFR Test1.6 Development of the Adaptive WLS Test; 2 Smoothing Methods and Normalizing Transformations; 2.1 Traditional Estimators of the Median and the Interquartile Range; 2.2 Percentile Estimators that Use the Smooth Cumulative Distribution Function; 2.2.1 Smoothing the Cumulative Distribution Function; 2.2.2 Using the Smoothed c.d.f. to Compute Percentiles; 2.2.3 R Code for Smoothing the c.d.f.; 2.2.4 R Code for Finding Percentiles; 2.3 Estimating the Bandwidth<br>2.3.1 An Estimator of Variability Based on Traditional Percentiles2.3.2 R |

Code for Finding the Bandwidth; 2.3.3 An Estimator of Variability Based on Percentiles from the Smoothed Distribution Function; 2.4 Normalizing Transformations; 2.4.1 Traditional Normalizing Methods; 2.4.2 Normalizing Data by Weighting; 2.5 The Weighting Algorithm; 2.5.1 An Example of the Weighing Procedure; 2.5.2 R Code for Weighting the Observations; 2.6 Computing the Bandwidth; 2.6.1 Error Distributions; 2.6.2 Measuring Errors in Adaptive Weighting; 2.6.3 Simulation Studies; 2.7 Examples of Transformed Data
Exercises3 A Two-Sample Adaptive Test; 3.1 A Two-Sample Model; 3.2 Computing the Adaptive Weights; 3.2.1 R Code for Computing the Weights; 3.3 The Test Statistics for Adaptive Tests; 3.3.1 R Code to Compute the Test Statistic; 3.4 Permutation Methods for Two-Sample Tests; 3.4.1 Permutation of Observations; 3.4.2 Permutation of Residuals; 3.4.3 R Code for Permutations; 3.5 An Example of a Two-Sample Test; 3.6 R Code for the Two-Sample Test; 3.6.1 R Code for Computing the Test Statistics; 3.6.2 R Code to Compute the Traditional F Test Statistic and p-Value
3.6.3 An R Function that Computes the p-Value for the Adaptive Test3. 6.4 R Code to Perform the Adaptive Test; 3.7 Level of Significance of the Adaptive Test; 3.8 Power of the Adaptive Test; 3.9 Sample Size Estimation; 3.10 A SAS Macro for the Adaptive Test; 3.11 Modifications for One-Tailed Tests; 3.12 Justification of the Weighting Method; 3.13 Comments on the Adaptive Two-sample Test; Exercises; 4 Permutation Tests with Linear Models; 4.1 Introduction; 4.2 Notation; 4.3 Permutations with Blocking; 4.4 Linear Models in Matrix Form; 4.5 Permutation Methods; 4.5.1 The Permute-Errors Method
4.5.2 The Permute-Residuals Method

Sommario/riassunto

"This book concerns adaptive tests of significance, which are statistical tests that use the data to modify the test procedures. The modification is used to reduce the influence of outliers. These adaptive tests are attractive because they are often more powerful than traditional tests, and they are also quite practical since they can be performed quickly on a computer using R code or a SAS macro. This comprehensive book on adaptive tests can be used by students and researchers alike who are not familiar with adaptive methods. Chapter 1 provides a gentle introduction to the topic, and Chapter 2 presents a description of the basic tools that are used throughout the book. In Chapters 3, 4, and 5, the basic adaptive testing methods are developed, and Chapters 6 and 7 contain many applications of these tests. Chapters 8 and 9 concern adaptive multivariate tests with multivariate regression models, while the rest of the book concerns adaptive rank tests, adaptive confidence intervals, and adaptive correlations. The adaptive tests described in this book have the following properties: the level of significance is maintained at or near [alpha]; they are more powerful than the traditional test, sometimes much more powerful, if the error distribution is long-tailed or skewed; and there is little power loss compared to the traditional tests if the error distribution is normal. Additional topical coverage includes: smoothing and normalizing methods; two-sample adaptive tests; permutation tests with linear models; adaptive tests in linear models; application of adaptive tests; analysis of paired data; adaptive multivariate tests; analysis of repeated measures data; rank-based approaches to testing; adaptive confidence intervals; and adaptive correlation"--